

Serial No. 09/553,107 (filed 04/20/2000)  
Attorney Docket No. GJH-0018 (P1998J107D)  
Request for Continued Examination & Response to Advisory Action dated 3/16/2005

### **REMARKS**

#### **REJECTION UNDER 35 U.S.C. 103(a)**

In Examiner's Advisory Action dated March 16, 2005, Claims 1-7, 9-12, 16 and 18 continue to be rejected under 35 U.S.C. 103(a) as being obvious over United States Patent Number 5,292,428, Harrison et al. ("Harrison").

#### **EXAMINER'S POSITION**

It is the Examiner's position that the Harrison teaches a process wherein the feedstock is passed through two or more hydrodesulfurization zones connected in series each containing a fixed bed of catalyst. Make-up hydrogen is supplied to a hydrodesulfurization zone other than the first hydrodesulfurization zone, a hydrogen-containing gas is recovered from each zone, and the first hydrodesulfurization zone is supplied hydrogen-containing gas from a subsequent hydrodesulfurization zone.

It is Examiner's position that Harrison teaches sulfur removal and aromatics reductions and that the amount of hydrogen utilized in Harrison is commensurate with the amount of hydrogen claimed in the instant invention.

As has been argued in the last two office actions, it is the Examiner's position that while Harrison does not teach that a portion of the hydrogen-containing stream to the first stage is supplied from a source other than the present multi-stage process, that Harrison teaches that H<sub>2</sub>S or COS or another sulfur-containing gas may be added to the hydrogen-

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containing treat gas to the first stage as taught by Harrison. (See Harrison, column 16, lines 33-50).

#### APPLICANTS' POSITION

It is applicants' position that the intent of the prior amendment to Claim 1 was to define a process where there are at least two separate supply sources of hydrogen-containing treat gas to the first stage of the presently claimed invention. One source of hydrogen-containing treat gas to the first stage is the hydrogen-containing gas recycled from the second stage and the other source is a hydrogen-containing gas supplied from a source other than the present multi-stage process.

While this was applicant's intent in prior amendments to the claims, the Examiner appears to be of the position that the manner in which the claims were prior amended do not require a source of hydrogen-containing gas from a source outside of the present multi-stage process, but that the claims as prior amended would encompass a treat-gas comprised of the hydrogen-containing gas recycled from the second stage in conjunction with a sulfur containing compound stream such as H<sub>2</sub>S, COS and other sulfur-containing streams.

Claim 1 has been amended to clarify in the claims that the hydrogen-containing treat gas stream must be comprised of two hydrogen-containing streams; one from the second stage of the instant process and the other from a source outside of the present multi-stage process. It is applicants' position that Claim 1 of the present invention as

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currently amended is patentable over Harrison and the all other pending claims in the current application are patentable as depending from Claim 1 as currently amended.

It is also applicants' position that Harrison does not teach nor suggest the use of a hydrogen-containing source external to a multi-stage process as currently claimed. Harrison teaches a process wherein it is desired that the sulfur content be monitored to ensure a minimum level of H<sub>2</sub>S or sulfur and that sulfur-containing materials can be added be to the first stage to "maintain the catalyst charge adequately sulfided" (see Harrison, column 16, lines 33-50).

In contrast, it would not be advantageous in the presently claimed process to add sulfur-containing compounds to the first stage (or subsequent stages) of process as is desired in the Harrison process. Although pure hydrogen would be a preferred source for the external hydrogen-containing source for the present invention, this is not usually a practical alternative in an operating refinery. However, it is clear from the specification of the present invention that the presence of H<sub>2</sub>S in the treat gas is an "impurity" and is "undesirable" in the present invention. Although all of the sulfur-containing compounds disclosed in Harrison are not specifically disclosed as detrimental in the present invention, these sulfur-containing compounds would be detrimental to the process in the same manner as is H<sub>2</sub>S by supplying unwanted sulfur compounds to the present process.

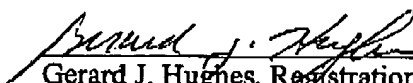
Therefore, it is applicants' position that it would not be encompassed by the present invention to add sulfur-containing compounds to the feedstreams of the present invention.

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Based on the preceding arguments, it is applicants' position that the claims as presently amended would not be obvious in view of Harrison, and the Examiner is respectfully requested to reconsider and withdraw all rejections and pass this application to allowance. The Examiner is encouraged to contact applicants' attorney should the Examiner wish to discuss this application further.

Respectfully submitted:

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